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SHOULD WE TREAT PULMONARY  
TUBERCULOSIS AS A CONTA-  
GIOUS OR AS A COMMUNICABLE  
DISEASE?

BY

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## Should We Treat Pulmonary Tuberculosis as a Contagious or as a Communicable Disease?†

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Your distinguished president desires that the question of the treatment and prophylaxis of tuberculosis shall be the subject of the discussions of this society for the next few meetings, and has honored me with the request to make the first communication. I will, therefore, introduce the question, "Should we treat pulmonary tuberculosis as a contagious or as a communicable disease?"

In order to be successful in the prophylaxis as well as the cure of any disease, we must first understand its true nature and then institute such measures as are feasible for its prevention. The true nature of such a common disease as pulmonary tuberculosis one might think would be thoroughly understood by all medical men and sanitary authorities. But the last few years which I have devoted almost exclusively to the search for knowledge in this direction, my visits to some thirty sanitariums, special hospitals, and celebrated health resorts for consumptives in Europe and America, and 300 letters of inquiry sent to prominent medical men previous to the publication of my book on this subject; (\*) have convinced me of the vast, and I might say dangerous, diversity of opinion existing among the sanitary authorities and the medical profession at large regarding the treatment and prophylaxis of pulmonary phthisis. I will not inflict upon you the many curious opinions that have been told or written to me. I will only say that a large majority speak of consumption as a *contagious* disease; that is to say, a disease which is transmitted to others by *contact*. A moment's reflection, however, will show that pulmonary tuberculosis, *per se*, is no more contagious than gout or lumbago. The touch of a consumptive will not impart the disease. The product of his exhalation is no more toxic than that of a well man, as it never contains Koch's bacillus nor its spores. We all know that it is the bacillus alone, found in the saliva and in countless quantities in the expectoration, that is capable of reproducing the disease in another organism. The expectoration dried and pulverized and then inhaled is the important factor in the spread of the disease. It is thus communicated to others. Neither the giver nor receiver need ever have been in contact with each other.

You cannot classify pulmonary tuberculosis with any infectious or contagious disease. Its mode of propagation is unique. It can only be communicated while other diseases may be infectious, contagious and communicable at the same time. Yet this one mode of propagation suffices to spread it to the extent that it is the cause of one-seventh of all the deaths recorded in our modern civilization. It may be said that it is better to class pulmonary tuberculosis in the list

† Read before the Los Angeles County Medical Association, May 1, 1896.

(\*) Les Sanatoria, Traitement et Prophylaxie de la Phtisie Pulmonaire—Par le Docteur S. A. Knopf. Paris—George Carré, Editeur.

(A synopsis of this book appeared in English in the *N. Y. Medical Journal*, Oct. 5 and 12, 1895.)

of contagious diseases so that the public may realize its great danger. Formerly I held the same opinion, but riper experience has taught me differently. To call consumption a contagious disease is not sufficient to guard against its danger, on the one hand, and on the other the word "contagious" conveys, to the public mind, the idea that contact with the patient is necessarily dangerous.

To illustrate the insufficiency of merely calling tuberculosis a contagious disease, let me tell you a little episode of personal experience. I was called in consultation to see a phthisical lady, and on our way my colleague told me how particular he had been to warn his patient of the contagious nature of her disease. On our arrival we found the young mother with a baby a few months old in her arms. She was preparing the food for her infant, which sacred duty she would intrust to no other. She had one spoon for herself and baby with which she tasted the food to judge of its palatability and temperature. She then told me that since the good doctor had told her her disease was contagious she had never once kissed her darling child. To the mind of this unfortunate mother it was the kiss alone, the direct contact, that was capable of transmitting the disease, and she restrained herself from caressing her child. But unconsciously she was conveying the bacillus in her saliva into the very food of her infant. In this case the word "contagious" did not mean enough.

But now let me tell you of an instance where it conveys too much meaning, where it becomes almost a social peril to call pulmonary tuberculosis a contagious disease. One of the most remarkable documents I have read in connection with sanitation, is the circular on consumption issued by the California State Board of Health, under the direction of its distinguished president and my esteemed friend, Dr. J. H. Davisson. I cannot speak too highly of the valuable and useful instructions it contains, but there is one passage to which I must take exception. It reads as follows: "Persons inheriting the liability to consumption should, above all things, avoid the presence and habitations of persons afflicted with consumption." Who are the persons inheriting the liability to consumption? They are the sons and daughters of tuberculous parents. And they should, above all things, avoid the presence and habitations of persons afflicted with consumption! If the parents are dead these children may be able to avoid others afflicted with pulmonary phthisis; but if the parents are living, and especially if in poor circumstances, it will be very difficult, often well nigh impossible, for them to avoid the presence and habitations of the unfortunate ones afflicted with the disease. And must we not take into account the moral and psychical element in the relation of parents and children in recommending such a measure? Would it not be easier to proclaim aloud, "Pulmonary consumption is not a contagious disease, but a very dangerously communicable one? In the expectoration and saliva alone is the great danger of imparting the disease to others. Be clean, religiously clean. Destroy the expectoration or other secretions which might contain the bacillus, and all danger of communicating the disease to others will be done away with."

Attached to the large sanitariums in Europe you usually find some smaller buildings where the relatives of the patients, who desire to be near, may live. They are often the children or brothers or sisters of the inmates of the sanitarium. They do not sleep in the room with a patient for the latter cannot afford to share his air supply; and they occupy another building, not that it would be considered dangerous for them to be present, but to leave the valuable room in the main building for those who need the care and supervision of the physicians. They eat and associate with the tuberculous patients every day. It may be a surprising statement, but I do not hesitate to declare that, in a properly conducted sanitarium, it is beneficial for the sick and those dear to him to be near each other,



even if the latter are predisposed to consumption. The unfortunate patient will not feel the loneliness of long separation from friends or relatives, and no one can deny how much hope and good spirits aid in the cure of any disease. Besides, the physician of the institution and the example of the patients will instruct those predisposed to consumption how best to avoid the disease.

While I was visiting Davos, Dr. Turban called my attention to his institution for "Prophylaktiker," as he called it. There the children of tuberculous patients are taught breathing exercises and other health-giving gymnastics, and are instructed generally in hygiene, and above all, how not to become consumptive. I have lived myself for months in the midst of 150 tuberculous patients in all stages of the disease, taken my meals with them, slept in a room that had been occupied by some of them, and associated for days and weeks with no other persons than these and my three colleagues, one of whom was a convalescent consumptive himself. I can assure you I felt safer from the danger of inhaling the tuberculous bacillus while serving there as assistant physician in the Falkenstein Sanitarium, than I feel here in our streets, churches, theaters, hotels and Pullman cars.

In Goerbersdorf, the largest sanitarium for consumptives in the world, through which some 2,000 patients pass every year, the mortality from tuberculosis among the village people has decreased to a wonderful degree, thanks to the sanitary regulations which direct all attention to the destruction of the bacillus, and also perhaps to the good example set before the village people by the patients. To uphold this statement I reproduce the official statistics of the village of Goerbersdorf for a hundred years:

1790-1799.	Deaths from phthisis pulmonalis,	14.
1800-1809.	" " " "	5.
1810-1819.	" " " "	9.
1820-1829.	" " " "	9.
1830-1839.	" " " "	8.
1840-1849.	" " " "	6.
1850-1859.	" " " "	7.
1860-1869.	" " " "	4.
1870-1879.	" " " "	5.
1880-1889.	" " " "	5.

These statistics become still more interesting when one considers that the population of Goerbersdorf has doubled in the last twenty-five years. Recently Dr. Nahm has succeeded in compiling the statistics of the village of Falkenstein,\* and there, also, since the establishment of the sanitarium in 1877 the mortality from pulmonary tuberculosis has been reduced one-half. From the years 1874 to 1876 it was 33 per cent. and from 1890 to 1894 only 15 per cent. At Saranac Lake, the great American Sanitarium, none of the 20 to 25 attendants have ever developed tuberculosis. The contraction of the disease by physicians, nurses or employees is almost unknown in these institutions. We cannot say the same of our general hospitals. We all know this to our sorrow, for how many of our youthful comrades have we not seen contract the disease during their service as internes in consumptive wards. Dr. I. H. Hanse, of New York, formerly assistant of Dr. Trudeau at the Adirondack Sanitarium, made a most interesting series of experiments by the inoculation of dust taken from two wards of a large city hospital and from the various cottages occupied by phthisical patients at Saranac Lake. His *modus operandi* was to inject 2 to 3 c.c. of sterilized water with the dust in suspension. Of the guinea pigs inoculated with the dust of the city hospital 25 per cent. developed gradually tuberculosis and 55 per cent died of acute infection. Of those inoculated with the dust from the cottages 5 per cent. died of tuberculosis and 5 per cent of acute infection. The cause of the presence

\* Munchner Medic. Wochenschrift No. 40, 1895.

of tuberculous products in the sanitarium dust, which should be free at least from tuberculous bacilli, was ultimately discovered. A patient had violated the rules, and expectorated on the floor of one of the cottages from which the dust for the experiment had been taken (\*).

But what makes a properly conducted sanitarium a place where there is the least danger of receiving the deadly germs of tuberculosis? Let me tell you in a few words what is done in such an institution.

Patients never expectorate except in a receptacle and all secretions are destroyed before they have a chance to do harm. Patients in the last stages, too weak to make use of the spittoon, are provided with moist rags, which are burnt immediately after use. Napkins and table utensils are boiled or disinfected after each meal. Besides this a scrupulous cleanliness is observed and all rooms and furniture so arranged that a thorough disinfection is easily carried out.

But I think the secret of prevention of pulmonary tuberculosis is really in the use of the pocket spittoon. A practical one you see here. It is named after its inventor, my honored teacher, Professor Dettweiler, the "Dettweiler-Hustenfläschchen." It is a pocket flask about four inches long and six inches in its largest circumference, provided with a hermetically closing top and bottom, and so constructed that it can easily be thoroughly cleaned. The touch of a spring causes the top to fly open to receive the intended deposit, and pressure of the lid causes it to close again with a snap.

If we can provide all our patients with such a flask, or a similar one, and teach them the laws of the communicability of tuberculosis we will be able to tell the relatives of the consumptive that they do not need to fear, for consumption is not a contagious disease. But we must impress upon the minds of the patients and their friends the danger of carelessness with the expectoration and other secretions.

With a proper hygienic and dietetic treatment and under the careful guidance of the physician we can hold out to them the hope of recovery in a goodly number of cases. It is our duty to consider and treat consumption as a highly communicable disease, and since a great many people are tuberculous without being aware of the fact, I think it

would be a good thing if the habit of expectorating anywhere except in a proper receptacle could be stopped by some law. I hope and pray the time may come when expectorating in a handkerchief will be considered ill-mannered, expectorating on the street or on the floor of any public or private building criminal, and expectorating in a neat pocket-flask the sign of good breeding and refinement.

\*A study of the infectiousness of the dust in the Adirondack Cottage Sanitarium, by I. H. Hanse, M. D.—*N. Y. Med. Record*, December 28, 1895.







